

Fig. 1a

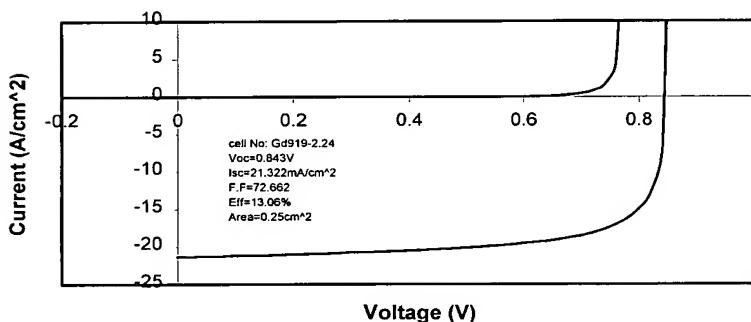


Fig. 4a

Sample	t_1 (min)	t_2 (min)	Voc	Jsc	FF	η
No	140C	70C	(V)	(mA/cm ²)	(%)	(%)
GD904	3	0	0.856	20.6	68.6	12.1
GD907	0	3	0.856	20.7	65.9	11.7
GD908	0.5	2	0.858	21.0	66.9	12.1
GD919	1	2	0.847	21.5	70.1	12.8

Fig. 5a

I-V curve of solar cells with p-layer deposit at 70 C

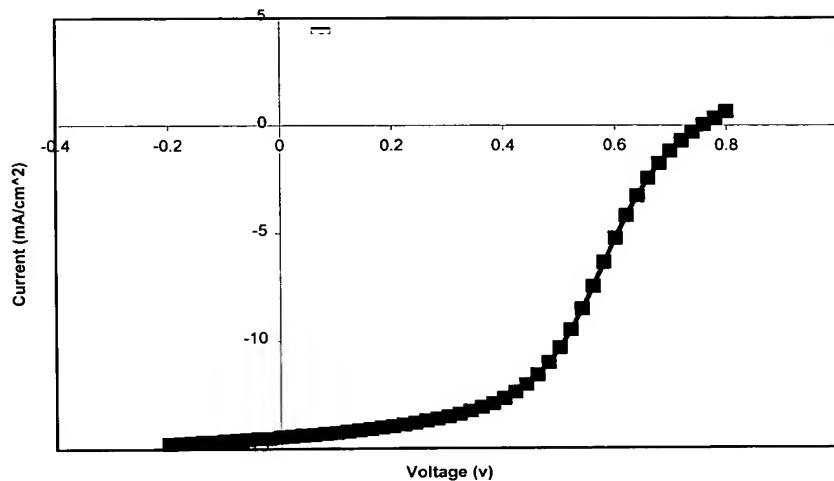


Fig. 2a

I-V curve of solar cells with p-layer deposit at 140 C

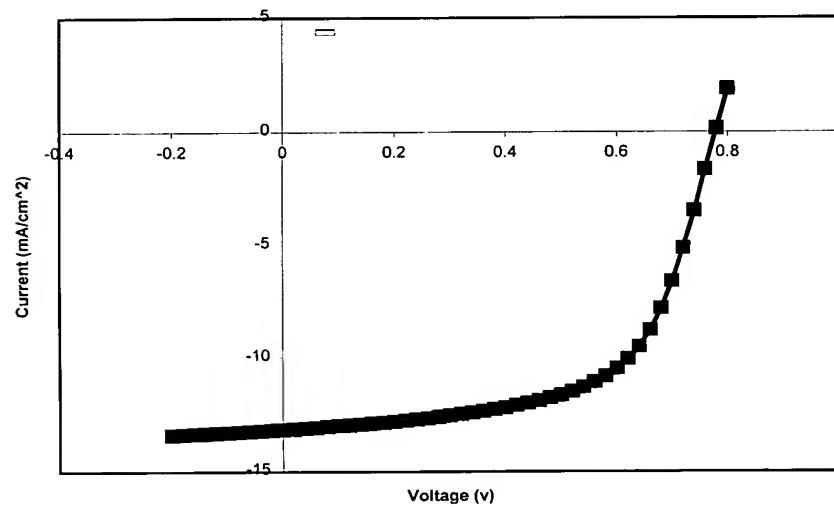


Fig. 3a

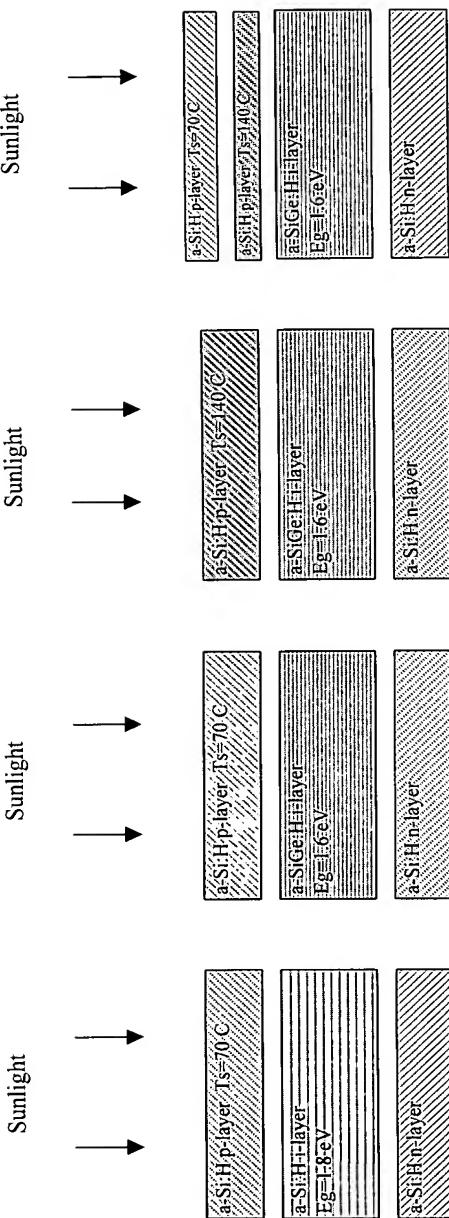


Fig. 1b

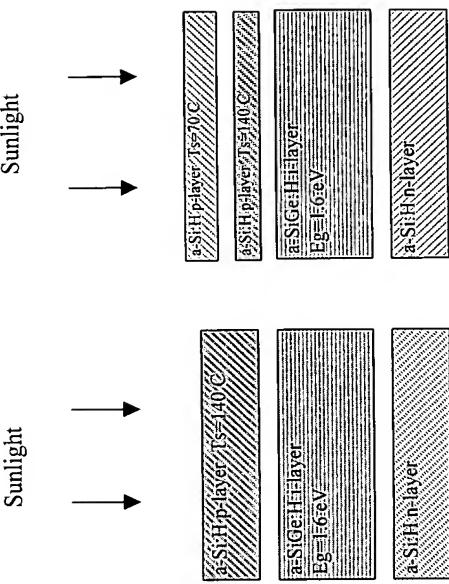


Fig. 2b

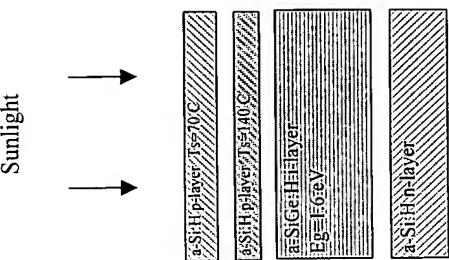


Fig. 4b

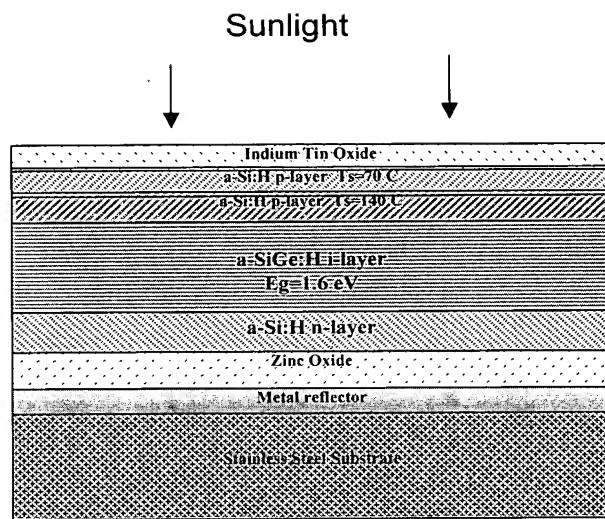


Fig. 5b

Deposition Conditions for GD904, GD907, GD908, GD919

	n-layer						i-layer						p-layer									
	Pressure (Torr)	RF power (Watt)	Temp (C)	SiH4 (sccm)	PH3 (sccm)	H2 (sccm)	time (min)	Pressure (Torr)	RF power (Watt)	Temp (C)	Si2H6 (sccm)	GeH4 (sccm)	H2 (sccm)	time (min)	Pressure (Torr)	RF power (Watt)	Temp (C)	SiH4 (sccm)	BF3 (sccm)	H2 (sccm)	time (min)	
GD904	0.5	3	300	2.5	0.5	50	0.16	0.6	3.5	300	2	0.55	100	60	2	100	140	0.3	0.1	100	1	
GD907	0.5	3	300	2.5	0.5	50	0.16	0.6	3.5	300	2	0.55	100	40	2	100	70	0.3	0.1	100	3	
GD908	0.5	3	300	2.5	0.5	50	0.16	0.6	3.5	300	2	0.55	100	5	2	100	70	0.3	1	100	0.16	
GD919	0.5	3	300	2.5	0.5	50	0.16	0.6	3.5	300	2	0.55	100	60	2	100	140	0.3	0.1	100	0.5	
																			2	100	70	0.3
																			1	100	100	0.16

Fig. 5c

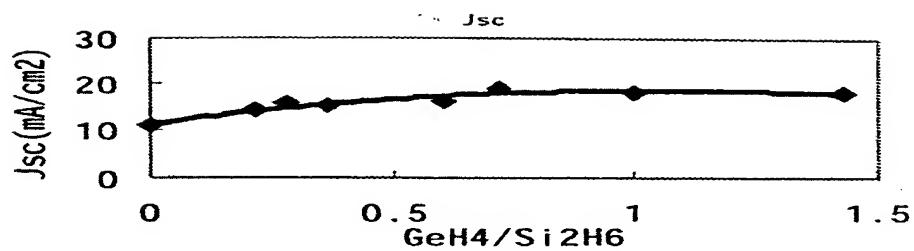


Fig. 6a

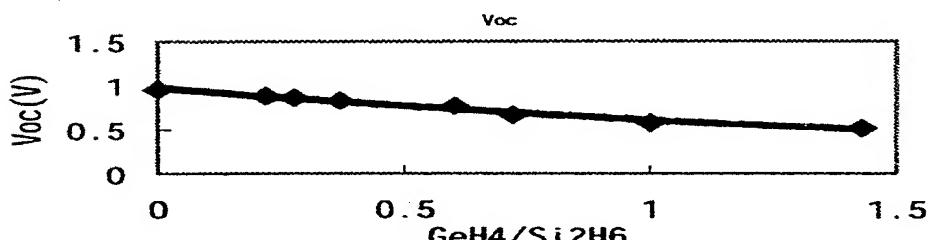


Fig. 6b

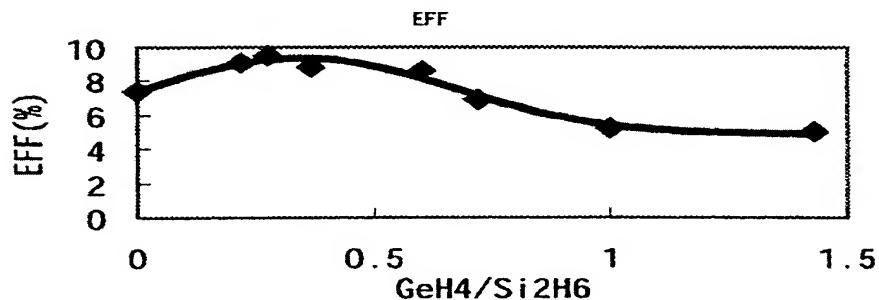


Fig. 6c